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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,910	04/25/2001	William E. Morgan	174-827	7548

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EXAMINER

DUONG, THANH P

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 05/15/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/841,910

Applicant(s)

MORGAN ET AL.

Examiner

Tom P Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1- 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 2, 7, 20, and 31 recite the limitation “least about” which is indefinite. See MPEP 2173.05(b). In claims 2 and 10, “about or within” does not clearly define the location of the hoop-stress layer, thus renders the claim vague and indefinite. In claim 19, “at least one material forming the hoop-stress layer is disposed therebetween” does not clearly define the location of the hoop-stress layer, thus renders the claim vague and indefinite. The term “therebetween” in claim 19 is vague and indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, and 7-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama (5,713,801) in view of Boehm et al. (5,919,100) and Examiner Official Notice. Regarding claim 1, Aoyama discloses a golf ball (Fig. 2) having one of the layers is a hoop-stress

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layer, comprising at least one material with a tensile elastic modulus of at least about 10,000 kpsi. Aoyama does not define four or more layers. However, Boehm et al. discloses a golf ball with four or more layers to have a desirable specific gravity, resiliency, and hardness to improve spin rate, compression, and initial velocity (Col. 8, lines 20-36). Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate the additional layers as taught by Boehm to Aoyama golf ball in order to improve spin rate, compression, and initial velocity. Regarding claims 2 and 9, Aoyama discloses a golf ball comprising the following layers: a fluid-filled center (140), a hoop-stress layer comprising at least one material with a tensile elastic modulus of at least 10,000 kpsi, and a cover (110) comprising at least one layer. Aoyama does not disclose an encapsulating shell and a resilient elastomeric component or layer; however, Boehm teaches that encapsulating shell or first layer (20) is desirable for compression properties (Col. 7, lines 31-35) and a resilient elastomeric component or second layer 22 is desirable for different compression and/or hardness. Thus, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to incorporate the encapsulating shell and resilient elastomeric layer as taught by Boehm to Aoyama golf ball in order to improve spin rate, compression, and initial velocity. Regarding claim 3, Aoyama discloses hoop-stress material comprises a wire, thread, or filament (Col. 3, lines 8-10). Regarding claim 7, Aoyama discloses the golf ball having one hoop-stress layer which has a tensile elastic modulus of at least about 20,000 kpsi (Col. 3, lines 29-31). Regarding claim 8, Aoyama does not disclose a first cross sectional area is coated with a binding material layer to create a second cross-sectional area greater than the first. However, Boehm et al. teaches suitable reactive liquids that form solids are silicate gels, agar gels, peroxide cured

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polyester resins, two-part epoxy resin systems and peroxide cured liquid polybutadiene rubber compositions (Col. 9, lines 25-34). These components exhibit similar chemical and mechanical properties as the binding material and thus, they are equivalent to the binding material. Thus, it would have been obvious in one having ordinary skill in the art at the time the invention was to incorporate the coat binding material of Boehm to Aoyama's golf ball to form a tighter wound or having similar advantage of holding internal pressure of core as taught by Boehm. Regarding claims 10, 11, 12, and 19, Aoyama discloses all the limitations in claims 1 and 2 as described above but does not disclose the first resilient elastomeric and the second resilient elastomeric component. However, Boehm teaches a resilient elastomeric component or second layer 22 is desirable for different compression and/or hardness. Although, Boehm does not disclose the second layer 22 as being a first or second resilient elastomeric layer but these two layers have similar or same composition as the second layer 22, and the number of layers and the difference in composition or component in a golf ball is an obvious matter of design choice in one having ordinary skill in the art. Thus, it would have been obvious in one having ordinary skill in the art at the time the invention was made to include the second layer 22 or a first and second resilient elastomeric component of Boehm to Aoyama's golf ball to have the advantage of different compression and/or hardness as taught by Boehm. Claims 13, 14, 15, 16, 17, and 18 disclose limitations similar to claims 3, 4, 5, 6, 7, and 8, respectively; thus, these claims are rejected for the same reasons. Claim 20 has all the limitations of claims 2 and 3 as described above, and 4 as described below; thus, claim 20 is rejected for the same reasons. Regarding claim 21, Aoyama does not disclose the first resilient elastomeric component has a compression of greater than about 50 but Boehm teaches the non-wound core layers are configured such that the core, which

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is equivalent to the elastomeric component or layer, have a compression of less than 80 (Col. 3, lines 7-10). Thus, it would have been obvious in view of Boehm at the time of the invention was made that Aoyama could have easily fabricated the elastomeric component as taught by Boehm to have a compression greater than about 50 in order to obtain a desired spin rates, hardness, and resiliency. Claims 22, 23, 24, 25, 26, 27, 28, 29 and 30 disclose limitations similar to claims 11, 12, 13, 14, 15, 16, 17, 18 and 19, respectively; thus, these claims are rejected for the same reasons. Regarding claim 31, Aoyama discloses a golf ball (Fig. 2) having four or more layers comprising: a center (115); a cover comprising at least one layer; and a hoop-stress layer comprising at least one material with a tensile elastic modulus of at least about 10,000 kpsi. Aoyama does not disclose a hoop-stress layer situated between two of the three innermost layers; however, the additional layers disposed about the hoop-stress layer is an obvious matter of design choice in one having ordinary skills in the golf ball art. Furthermore, the Applicant has not disclosed the criticality of the number of layers and the location of the hoop-stress layer relative to other innermost layers. Thus, one having ordinary skill in the art would have expected the golf ball of Aoyama would perform equally well when compared to the Applicant's invention. Aoyama does not disclose the material has a first cross-sectional area and the material is coated with a binding material to provide a coated material with a second cross-sectional area greater than the first. However, Boehm teaches suitable reactive liquids that form solids are silicate gels, agar gels, peroxide cured polyester resins, two-part epoxy resin systems and peroxide cured liquid polybutadiene rubber compositions. (Col. 9, lines 25-34). These components exhibit similar chemical and mechanical properties as the binding material and thus, they are equivalent to the binding material. Thus, it would have been obvious in one having

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ordinary skill in the art at the time the invention was to incorporate the coat binding material of Boehm to Aoyama's golf ball to form a tighter wound or having similar advantage of holding internal pressure of core as taught by Boehm. Regarding claim 32, Aoyama discloses a golf ball with a solid center (Col. 2, line 46-48). Regarding claim 33, Aoyama discloses a golf ball with a fluid-filled center (Fig. 3, (140)). Regarding claims 34 and 35, it is art-recognized that under the rules of USGA that the diameter of the golf ball shall not be less than 1.680 inches. Thus, it is possible to have the core in any range of diameter, the intermediate layer(s) in any thickness, and the cover(s) in any thickness just as long as the overall design diameter of a golf ball is less than 1.680 inches. Regarding claim 36, Aoyama discloses a golf ball where the center is surrounded by an elastic wound layer (Fig. 1, (105)). Regarding claim 37, both Aoyama and Boehm do not disclose the golf ball having the second cross-sectional area is at least about 5 percent larger than the first cross-sectional area but varying the thickness of the second cross-sectional area relative to the first cross-sectional area is an obvious matter of design choice in one having ordinary skill in the art. Also, Boehm discloses a reactive liquid system or binding material in claim 31 forms a solid or internal pressure within the first layer 20 or encapsulating layer. Thus, it would have been obvious in one having ordinary skill in the art at the time of the invention was made to include the second cross-sectional area at least about 5 percent larger than the first cross-sectional area of Boehm to Aoyama's golf ball in order to provide a tighter seal to the hoop-stress layer. Regarding claim 38, Aoyama discloses a golf ball of claim 31, wherein the hoop-stress layer is comprised of a continuous strand having a diameter from about 0.004 to 0.02 inches. (Col. 1, lines 49-51). Claim 39 discloses limitations similar to claim 8. Thus, this claim is rejected for the same reasons. Regarding claims 40 and 41, Aoyama discloses the cover or

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outermost thermoset material is preferably ionomer or balata, but does not disclose the golf ball's cover having a hardness of about 10 to 90 Shore D and abrasion resistant material. Both Aoyama and Applicant disclose the cover material having similar composition and thus, the cover of Aoyama inherently has similar range of hardness as claimed by the Applicant. Furthermore, Boehm teaches that the cover of a golf ball should have a Shore D hardness of about 65 or greater (Col. 3, lines 9-10) to improve high abrasion resistance, high tear strength, and resilience (Col. 3, lines 57-60). Thus, it would have been obvious in one having ordinary skill in the art at the time the invention was to make a golf ball of Aoyama to have a cover with a Shore D at least 65 or greater as taught by Boehm. One of ordinary skill in the art would have been motivated to do so in order to improve high tear strength, resilience, durability, flight performance, and restitution.

3. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied in claim 1 above, and in further view of Maehara et al. (5,913,736) and Nomura et al (4,938,471). Regarding claim 4, Aoyama discloses all the elements except shape memory alloys. Maehara et al. teaches that the shape memory alloy layer provides an effect of tightening the core, thus improving the golf ball's resiliency, resulting an increased travel distance. Thus, it would have been obvious in one having ordinary skill in the art at the time of the invention was made to incorporate the shape memory alloy of Maehara to Aoyama's golf ball to achieve the benefit as taught by Maehara. Regarding claim 5, Aoyama discloses golf ball having at least one hoop-stress material is wound or wrapped but does not define in a criss-cross, basket weave, or open pattern about the core. Nomura et al. discloses in the prior art that thread wound golf balls

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are generally manufactured by winding a rubber thread with a high elongation on a core of rubber or liquid to form a core ball, and enclosing the core ball in a cover. For winding thread rubber around the core, there are known two techniques, a random winding or basket winding technique and a great circle winding technique. These techniques have a criss-cross, basket weave, or open pattern. Also, the wounding techniques or patterns are an obvious matter of design choice in one having ordinary skill in the art. Regarding claim 6, it appears that Aoyama discloses the golf ball having the at least one hoop-stress material comprises a plurality of braided elements.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claim 31 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 19 of the copending Application No. 09842829. Although the conflicting claims are not identical, they are not patentably distinct from each other because the differences between the patent claims and the instant application claims are minor and obvious from one another.

a. In the instant claim 31, the recitation of "A golf ball having four or more layers comprising: a center; a cover comprising at least one layer; and a hoop-stress layer comprising at least one material with a tensile elastic modulus of at least about 10,000 kpsi, situated between two of the three innermost layers, wherein the material has a first cross-sectional area and the material is coated with a binding material to provide a coated material with a second cross-sectional area greater than the first" is obvious alternative language of "A golf ball of four or more concentrically disposed layers, which comprise: a core of at least one layer comprising a resilient elastomeric material; a hoop-stress layer comprising at least one wound material, having a tensile elastic modulus of at least about 10,000 kpsi, disposed about the core, wherein the at least one wound material forming the hoop-stress layer has a first cross-sectional area and is coated with a binding material layer to create a second cross-sectional area greater than the first; and an outermost thermoset material of at least one layer, having a dimpled outer surface, disposed about the binding material layer " in the copending application (Claim 19).

b. In the instant claim 31, the recitation of "A golf ball having four or more layers comprising: a center; a cover comprising at least one layer; and a hoop-stress layer comprising at least one material with a tensile elastic modulus of at least about 10,000 kpsi, situated between two of the three innermost layers, wherein the material has a first cross-sectional area and the material is coated with a binding material to provide a coated material with a second cross-sectional area greater than the first" is obvious alternative language of "A golf ball having four more layers: comprising: a center; a cover comprising at least one layer; and a hoop-stress layer comprising at least one material with a tensile elastic modulus of at least about 10,000 kpsi, situated between two of the three innermost layers, wherein the material has a first cross-

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sectional area and the material is coated with a binding material to provide a coated material with a second cross-sectional area greater than the first ” in the copending application (Claim 1). In the copending application, the Examiner takes Official Notice by convention that all golf ball covers will have certain range of thickness including a thickness of 0.065 inches which is claimed by the Applicant.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P Duong whose telephone number is (703) 305-4559. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Sewell can be reached on (703) 308-2126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9302 for regular communications and (703) 746-9302 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4119.

Tom Duong
May 8, 2002


Paul T. Sewell
Supervisory Patent Examiner
Group 3700